




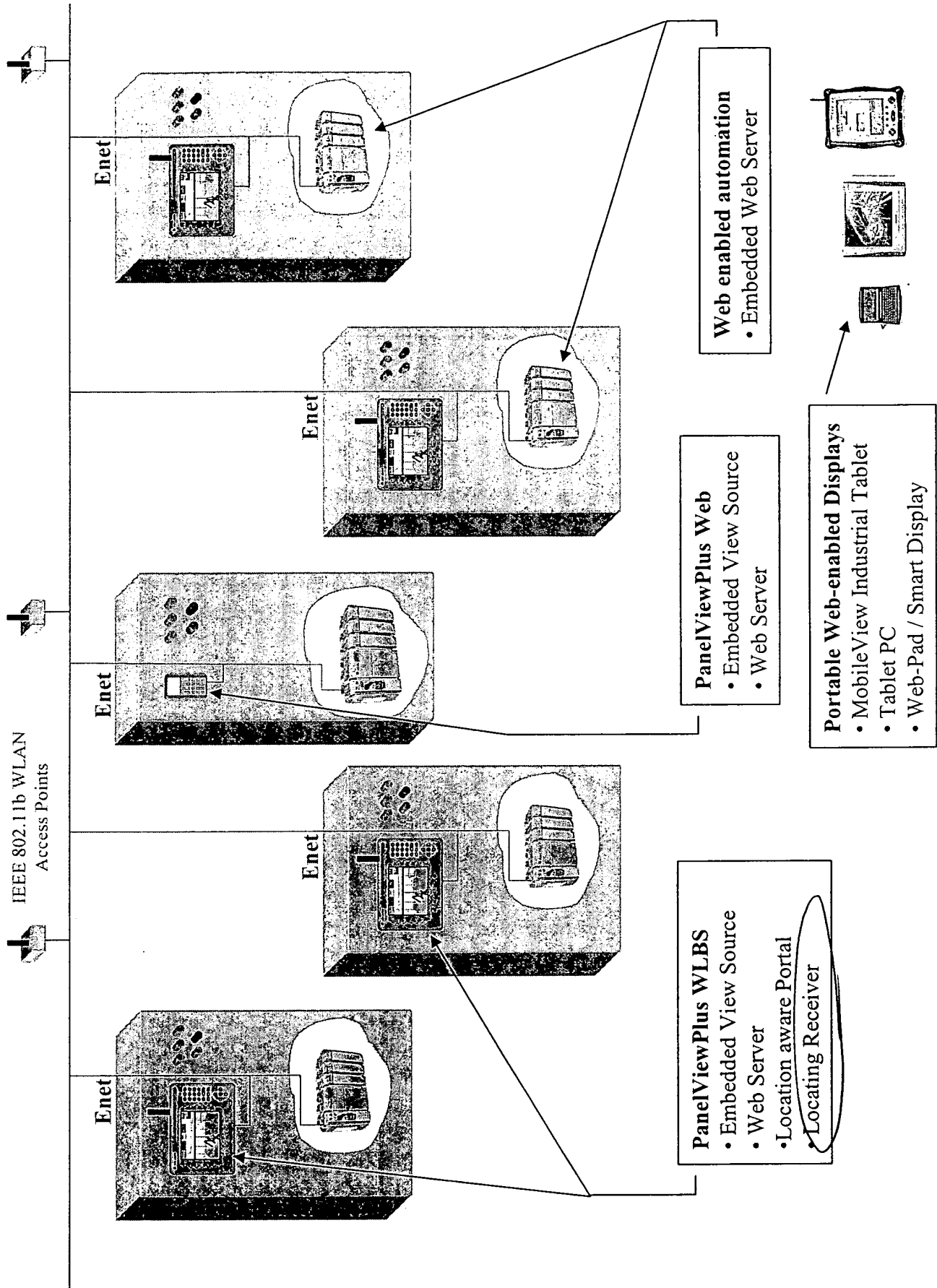
### DECLARATION OF DAVID W. FARCHMIN

1. My name is David W. Farchmin. I am currently employed by Rockwell Automation, Inc., as an engineer based in Milwaukee Wisconsin.
2. I am the primary inventor of the subject matter claimed in US patent application serial No. 10/675,535 (hereinafter "the '535 application") that was filed on September 30, 2003, that is titled "Wireless Location Based Automated Components" and that was amended on February 2, 2006 to modify claims 1 and 66 and to cancel claim 47.
3. I recently reviewed the '535 application claims as amended on February 2, 2006 and understand the scope of the claims.
4. I hereby state that I conceived of and invented the subject matter in each of independent claims 1, 23, 31, 37, 40, 54 and 64 of the '535 patent application as amended on February 2, 2006 on or prior to July 21, 2003. To this end, included herewith are a copy of a portion of a white paper and a portion of a power point presentation that were completed prior to July 21, 2003 that are provided as evidence of conception.
5. I hereby state that from a time prior to July 21, 2003 to the filing date of the '535 patent application on September 30, 2003 I and others worked diligently to prepare and file the '525 patent application.

I declare under penalty of perjury that the foregoing is true and correct on this 26<sup>th</sup> day of July, 2006.

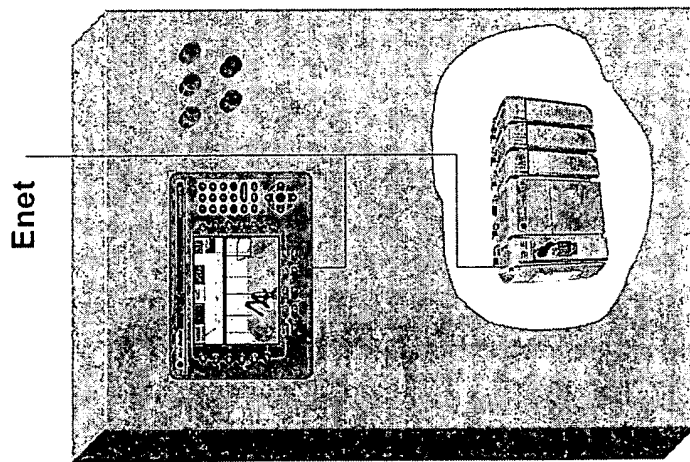
  
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David W. Farchmin

# Industrial WLBS Scenario

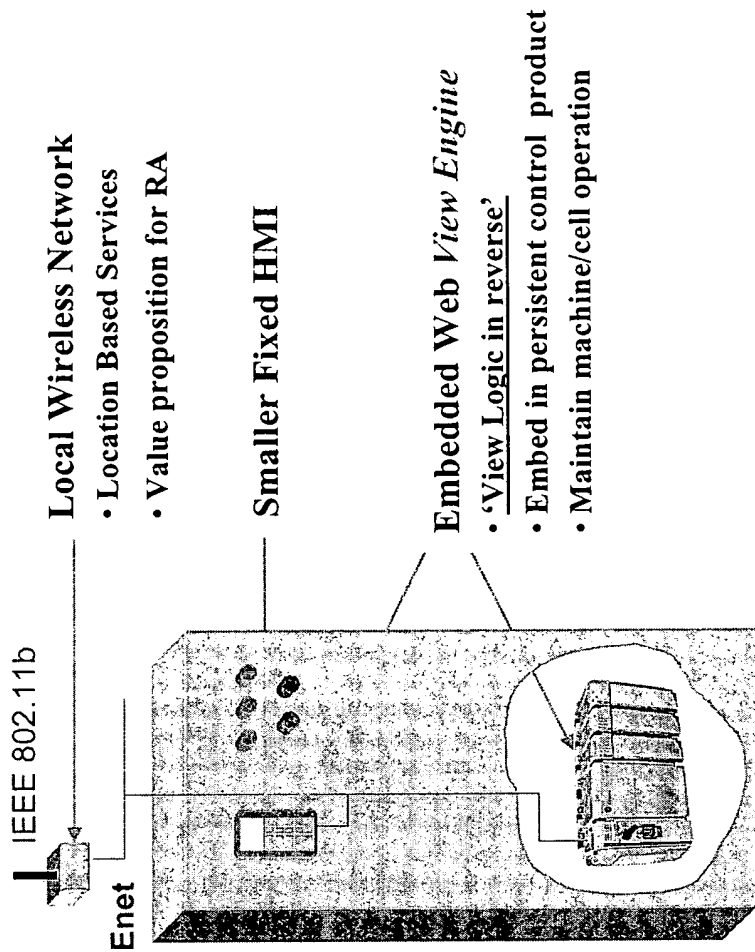


# Embedded View Source - View Engine

## Current Machine Level HMI

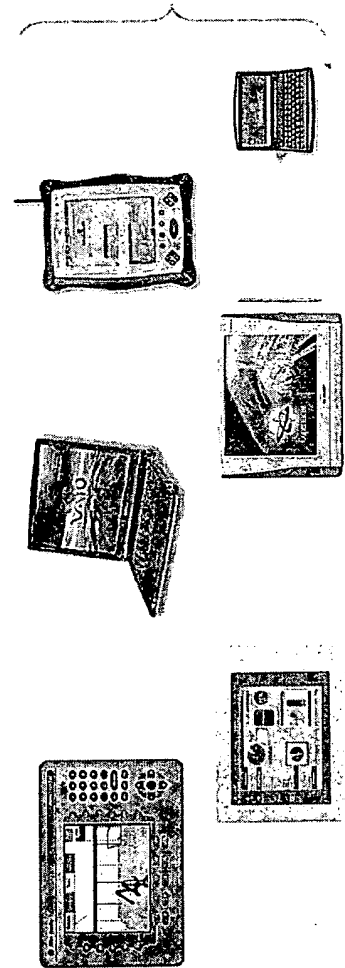


## Wireless with Embedded View Engine



## Fixed or Wireless Web Viewer

- View HMI from View Engine
- View PLC Status
- View Drive Status
- View 3rd Party Product
- View Middleware applications



#### Industrial Market Data Summary:

- Machine Mounted Open and Embedded Operator Interface Terminals: CAGR 4.7%
- HMI Software: CAGR 6.9%
- Wireless Operator Interface: CAGR 53.3%
- Web-Enabled HMI Hardware: CAGR ~120%

#### Market Analysis:

It is clear that organic growth in Rockwell Automation's traditional HMI markets will be limited. Besides relatively limited single digit growth, strong competitive pricing pressures will persist and are expected to negatively impact product margins.

Rockwell Automation relies on its system linked strategy to preserve product margins and business profitability. ViewAnyWare is Rockwell Automations system linked strategy for its HMI products. Rockwell Automation's system linked competitors (ie: Siemens, Schneider, GE Fanuc, Mitsubishi, and Omron) are augmenting their Industrial HMI offerings and can be expected to offer comparable system linked visualization product offerings and customer value propositions. Since Rockwell Automation will not have a unique sustained competitive advantage, pricing and product margin pressures for system linked ViewAnyWare products will intensify.

To support new **profitable growth** Rockwell Automation must explore **high growth market segments** utilizing a strategy that provides a **unique and compelling customer value proposition** combined with **sustainable competitive advantage**.

One very important way to support sustainable competitive advantage is through the identification, development, and exploitation of key enabling technologies and the protection of this Intellectual Property through forward looking Strategic Patents.

#### The Junction of Industrial Wireless, Web-Enabled, and HMI markets:

The traditional Industrial HMI terminal market has provided a machine mounted device solution. Rockwell Automation has enjoyed good market share penetration with good profitability from high margin PanelView products serving this segment. Increased competition and limited market growth are expected to bring increased price based competition and downward margin pressure for the future.

Wireless technology enables device mobility. Wireless HMI terminals cut the physical ties to the machine and through mobility enable the terminals to move with the operator. The display device is now associated with the person while the various applications are associated with the machines they represent. With mobility the user expects the same wireless terminal to be used for many purposes and at any location within the facility.

Web-Enabled technology provides for enhanced information access with web-enabled devices, including the rapidly expanding use of web-browser based terminals. Interoperability and information access are the key values that customers will pursue. Also among the values for the customer is local and remote role-based information access directed through the use of portal technologies. What the user sees on their operator interface depends upon both who they are and where they are.

What is needed is to provide a unique and compelling customer value proposition with sustainable competitive advantage to exploit the high growth rate Web-Enabled and Wireless Factory Automation markets. The compelling customer value proposition for HMI is to provide seamless automatic information availability continuously based upon the person, their role, and their location. A key aspect of this is location based view selection and access control.

### Wireless Location Based Services

Wireless Location Based Services first requires the location or position of the mobile device to be determined. The Global Positioning System (GPS) provides a good means to provide outdoor positioning but it does not work indoors or in highly metropolitan areas. Schemes exist to provide indoor positioning using a WLAN infrastructure. With such systems the WLAN infrastructure provides both data communication as well as the means for mobile device position detection and tracking.

With the location of the mobile device known, the functionality provided through the device can be location dependent. In an industrial environment this can mean that the display of the mobile terminal could automatically show the view of the machine you are close to. It could also inhibit the ability to modify the operation of a machine that is too far away for you to visually verify correct machine operation. With both the location and identity (role) of the operator known automatic information display and access control can be provided as the operator moves about.

### The concept of the View Source

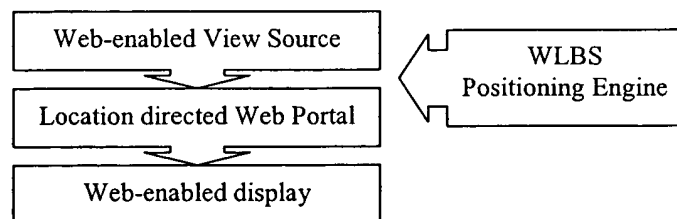
The concept of View Sourcing is an important one. View sourcing is the HMI application that continually monitors and provides the view into the process or machine in operation. In traditional embedded HMI products, such as the PanelView family, there is a 1-1 association between the view source and the display device as the view application is resident on the terminal. That terminal was mounted on the machine and performed trending, alarming, and other monitoring and data collection functions. One could think of the value of PanelView as providing a machine level display as well as a machine resident HMI application, or View Source.

With the display device becoming both mobile and personal, that is associated with the user and not a specific machine, the display device and view source are best thought of separately. The view source is associated with, if not embedded into, the machine. It stays operating while the machine is operating and provides the view of the operation of the machine. With this single view source for the machine there is a consistent source for view information and data for that machine.

### An example implementation scenario

The following is believed to be one of many possible implementation scenarios. It is chosen as an example of how Wireless Location Based Services could be applied in a Factory Automation environment to provide customer value and sustainable competitive advantage.

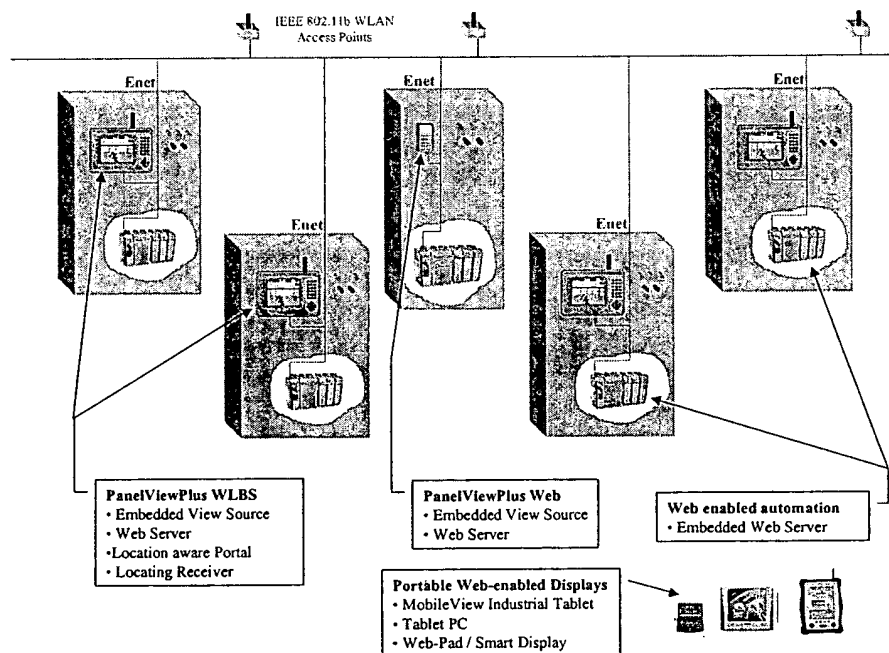
This scenario uses an enhanced Wireless Local Area Network (WLAN) infrastructure, a distributed Wireless Location Based Service (WLBS) positioning engine, distributed location aware embedded web portals, web-enabled embedded view sources, and web-enabled display devices. In this scenario the view source is an embedded HMI terminal which also contains an embedded web-server to provide a view source for remote web access to the HMI displays for the machine. The web portal provides the linkage between the various web-enabled view sources and the web-enabled displays based upon both the role of the user at the display and the location of the display.



Assume that Rockwell Automation, through close collaboration with Ekahau, has refined a hardware/software WLAN based position detection system. At the core of this system is Ekahau's positioning engine technology. The solution for Rockwell Automation however has a special implementation. The signal measurements used for position detection are made at the access points. This allows a WLAN infrastructure to be installed as normal for data connectivity. The installation is then augmented for improved positioning robustness and accuracy with special receive-only access points that provide extra positioning information. Because these additional positioning receivers are passive, they can be added without concern for channel allocation or proximity issues. In fact these special positioning access points can be embedded in the panel mount PanelViewPlus terminals on the machine as they are both located where the highest positioning accuracy is needed and the PanelViewPlus terminals already provide a good physical placement with antenna access outside the metallic control cabinet and wired Ethernet connectivity within the control cabinet.

Assume that Rockwell Automation, through both strategic patenting and commercial agreements with Ekahau, was able to command exclusivity for the application of this WLBS technology in the factory automation market. While portable information access and WLBS become commonplace in the office and other market areas, Rockwell Automation would be able to lead and control the implementation and deployment of this technology in the Factory Automation market. Rockwell Automation is then able to choose the deployment scenario's that provide our customers with the functionality that they want in a manner that provides Rockwell Automation with the highest sustainable profitability. In particular Rockwell Automation could pick a deployment architecture that provided openness for connectivity to web-enabled third party devices, preferred compatibility for Rockwell Automation devices, and exclusivity for Rockwell Automation as the provider of the WLBS capability.

## Industrial WLBS Scenario



For this scenario we chose to embed the positioning engine into select PanelView terminals as a distributed positioning engine. When designing the installation the physical factory area was divided regions. In each region a PanelView with embedded positioning engine capability enabled is installed. During commissioning each positioning engine is trained of the wireless signatures for its region. When a mobile device moves from one region to another the distributed positioning engines communicate with each other to hand off the tracking of the mobile device. This makes for a scaleable easy to deploy infrastructure.

For this scenario we also chose to utilize a location aware web portal embedded in select PanelView terminals. The web portal links the remote display device, which can be either fixed or portable, with the appropriate web enabled view source, which could be in the same PanelView terminal or another piece of web enabled equipment within the machine or on the network. The web portal dynamically redirects the information source and content based upon the role and location of the user. It also provides access control so remote access users are inhibited from performing operations that only proximate users are allowed.

For this scenario either a commercial grade Tablet PC or a rugged industrial grade MobileView portable terminal could be used. The differentiation between the two is plant floor ruggedization and cost. Since the Tablet PC will become more widely used (as will WLBS) in the commercial / office arena, industrial tablets will continue to be price compared with their commercial grade counterparts. Either can be used in this scenario. Where the value of the drop resistant custom Industrial grade tablet can justify its high price premium, these will prevail. Otherwise commercial grade tablets can be utilized, perhaps sold under the Allen-Bradley brand. In either case, the key is the value engineering of the view source and WLBS deployment architecture.

#### The business strategy

Given this scenario Rockwell Automation can control the deployment of the technology in a manner that allows for resistance to large user price concessioning. This implementation preserves Rockwell Automations profitable PanelView embedded terminal business and provides sustainable competitive advantage for their profitable growth. By controlling the market Rockwell Automation can provide preferred compatibility for its own products while still providing our customers with open connectivity for web-enabled third party devices, but through our portal and infrastructure. This scenario heavily leverages an embedded plant floor deployment, as this is where Rockwell Automation has historically commanded the best market penetration and its highest profitability.

Through the use of a well thought out technology deployment strategy Rockwell Automation can couple and leverage the sustained competitive advantage of exclusivity of key technologies to pull through key system linked products.

WLBS is definitely an emerging market. Current Industrial Market studies have no mention of this specific technology. We are however exploiting the key customer value drivers of the high growth web-enabled and wireless Operator Interface segments of the Industrial Automation market. With the additional compelling value proposition of WLBS along with exclusivity, a sustainable competitive advantage can be achieved to both assure high market penetration and profitable growth. This scenario requires Rockwell Automation to lead in the development of this emerging market. By leading Rockwell Automation can control the customer expectations and system deployment options.

Rockwell Automation's strategic patents may provide application exclusivity in the industrial market, but not in adjacent commercial, retail, and consumer markets. WLBS and portable web-enabled information displays will be deployed and adopted in these adjacent markets. This will drive our customers to request and expect the availability of this technology on the factory floor. If Rockwell Automation blocks others from providing this technology and does not provide it ourselves we will be perceived as a solution inhibitor and not a solution provider. If we do not control and lead the deployment, we may lose the opportunity to direct the implementation in a manner that is inseparately linked with and pulls through high margin system linked Rockwell Automation product solutions.